

REMARKS

Claims 1, 2, 4 – 7, 10, 11, 13 – 21, 23 – 25, 27-28 and 30 remain in the present application. Claim 26 is herein cancelled without prejudice.

35 U.S.C. 102 Rejections

Claims 20 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Bernadini et al.

The Examiner is respectfully directed to independent Claim 20, which recites that an embodiment of the present invention is directed to:

A method for filtering periodic or quasi-periodic signals in a spread spectrum signal, comprising:

- receiving said spread spectrum signal;
- digitizing said spread spectrum signal;
- determining linear predictive coefficients corresponding to said spread spectrum signal;
- discarding said linear predictive coefficients, wherein the linear predictive coefficients are not used to actively filter said spread spectrum signal;
- determining error coefficients corresponding to said spread spectrum signal;
- processing said error coefficients to retrieve information contained in the spread spectrum signal.

Claim 21 depends upon Claim 20, and recites further features of the claimed embodiments.

The present rejection suggests that the Bernadini reference teaches or suggests every element of the claimed embodiment. Applicant respectfully disagrees, and asserts that Bernadini fails to anticipate a method for filtering periodic or quasi-periodic signals in a spread spectrum signal which includes discarding said linear predictive coefficients, wherein the linear predictive coefficients are not used to actively filter said spread spectrum signal; determining error

coefficients corresponding to said spread spectrum signal; and processing said error coefficients to retrieve information contained in the spread spectrum signal, as claimed.

The rejection suggests that Bernadini teaches discarding the linear predictive coefficients, as claimed. Applicant respectfully disagrees. The rejection cites Bernadini at equation 17 as illustrative of this element. Applicant has reviewed Bernadini, and understands the cited portion to be a description of *determining* the linear predictive coefficients; see Bernadini at pg. 70, col. 2. While Bernadini mentions "error" with respect to equation 17, applicant notes that the usage here is in determining the linear predict predictor coefficients, by minimizing the *mean square error* between the received signal at a given instant, $r(k)$, and the narrowband interference at a given instant, $i(k)$.

The rejection further suggests that Bernadini teaches processing the error coefficients to retrieve information contained in the spread spectrum signal, as claimed. Applicant respectfully disagrees. The rejection cites to portions of figure 6 as illustrative of this element. Applicants has reviewed the cited portions of Bernadini, and respectfully contends that the digital to analog converter, correlator, and data demodulator described in conjunction with figure 6 are not described as processing the error coefficients, as claimed, to retrieve information contained in the spread spectrum signal. To the contrary, figure 6 describes the operation of a system which uses the linear predictive coefficients, in order to filter a spread spectrum signal.

Therefore, Applicant respectfully contends that Bernadini fails to anticipate or render obvious the embodiments of the present invention recited in Claim 20. Accordingly, Applicant

respectfully contends that Claim 20 overcomes the basis for rejection under 35 U.S.C. 102, and is

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in condition for allowance. Therefore, Claim 21, dependent upon Claim 20, also overcomes the basis for rejection, as being dependent upon allowable base claims.

35 U.S.C. 103 Rejections

Claims 1, 2, 4-7, 10, 23-25, 27, and 28 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bernadini et al.

The Examiner is respectfully directed to independent Claim 1, which recites that an embodiment of the present invention is directed to:

A spread spectrum receiver, comprising:
an antenna for receiving a spread spectrum signal;
a digital filter coupled to said antenna, wherein said digital filter outputs a first set of terms including linear predictive coefficients representing interfering periodic or quasi-periodic signals within a specified band containing said spread spectrum signal and said digital filter outputs a second set of terms including error coefficients that do not include said interfering periodic or quasi-periodic signals, wherein said linear predictive coefficients are discarded and said corresponding interfering periodic or quasi-periodic signals are filtered out, and wherein said error coefficients are used for signal processing.

Independent Claims 20 and 27 recite similar limitations. Claims 2, 4-7, and 10 are dependent upon independent Claim 1, and recite further features of the claimed embodiments. Claims 23-25 dependent upon independent Claim 20, and recite further features of the claimed embodiments. Claim 28 is dependent upon independent Claim 27, and recites further features of the claimed embodiments.

The present rejection suggests that the Bernadini reference teaches or suggests every element of the claimed embodiments, with the exception of an antenna. Applicant respectfully disagrees, and asserts that Bernadini fails to teach or suggest a spread spectrum receiver which

includes a digital filter, wherein said digital filter outputs a first set of terms including linear predictive coefficients representing interfering periodic or quasi-periodic signals within a specified band containing said spread spectrum signal and said digital filter outputs a second set of terms including error coefficients that do not include said interfering periodic or quasi-periodic signals, wherein said linear predictive coefficients are discarded and said corresponding interfering periodic or quasi-periodic signals are filtered out, and wherein said error coefficients are used for signal processing., as claimed.

The rejection states that Bernadini fails to explicitly disclose an antenna; Applicant respectfully agrees.

As discussed above, with reference to Claim 20, Applicant respectfully asserts that Bernadini fails to teach or suggest discarding linear predictive coefficients, and using error coefficients for signal processing, as claimed. As such, Bernadini fails to anticipate or render obvious embodiments of the present invention which incorporate this limitation.

Therefore, Applicant respectfully contends that Bernadini fails to anticipate or render obvious the embodiments of the present invention recited in Claims 1, 20, and 27. Accordingly, Applicant respectfully contends that these claims overcome the basis for rejection under 35 U.S.C. 103, and are in condition for allowance. Therefore, Claims 2, 4-7, and 10, dependent upon independent Claim 1, Claims 23-25, dependent upon independent Claim 20, and Claim 28, dependent upon independent Claim 27, also overcomes the basis for rejection, as being dependent upon allowable base claims.

Claims 11, 13, 15, and 30 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bernadini et al.

The Examiner is respectfully directed to independent Claim 11, which recites that an embodiment of the present invention is directed to:

A linear predictive coding filter for filtering out periodic or quasi-periodic signals in a spread spectrum system comprising:

a linear predictive coding gradient adaptive lattice that filters out periodic or quasi-periodic signals corresponding to predictive coefficients and said linear predictive coding filter outputs error information which is then used for signal processing purposes.

Independent Claim 30 recites similar limitations. Claims 13 and 15 are dependent upon independent Claim 11, and recite further features of the claimed embodiments.

The present rejection suggests that the Bernadini reference teaches or suggests every element of the claimed embodiments, with the exception of the LPC gradient adaptive lattice filter. Applicant respectfully disagrees, and asserts that Bernadini fails to teach or suggest a linear predictive coding filter for filtering out periodic or quasi-periodic signals in a spread spectrum system which includes a linear predictive coding gradient adaptive lattice that filters out periodic or quasi-periodic signals corresponding to predictive coefficients and said linear predictive coding filter outputs error information which is then used for signal processing purposes., as claimed.

As discussed above, with reference to Claim 20, Applicant respectfully asserts that Bernadini fails to teach or suggest outputting error information which is then used for signal

processing purposes, as claimed. As such, Bernadini fails to anticipate or render obvious embodiments of the present invention which incorporate this limitation.

The rejection states that Bernadini fails to explicitly disclose the LPC gradient adaptive lattice filter; Applicant respectfully agrees.

The rejection suggests the combination of Bernadini with Tanrikulu. However, Tanrikulu fails to remedy the defect in Bernadini, in that Tanrikulu similarly fails to teach or suggest outputting error information which is then used for signal processing purposes, as claimed.

Therefore, Applicant respectfully contends that Bernadini, alone or in combination with Tanrikulu, fails to anticipate or render obvious the embodiments of the present invention recited in Claims 11 and 30. Accordingly, Applicant respectfully contends that these claims overcome the basis for rejection under 35 U.S.C. 103, and are in condition for allowance. Therefore, Claims 13 and 15, dependent upon independent Claim 11, also overcomes the basis for rejection, as being dependent upon allowable base claims.

Claims 14 and 16-19 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Bernadini et al.

The Examiner is respectfully directed to independent Claim 11, reproduced above. Claims 14 and 16-19 are dependent upon independent Claim 11, and recite further features of the claimed embodiments.

As discussed above, with reference to Claim 11, Applicant respectfully asserts that Bernadini fails to teach or suggest outputting error information which is then used for signal processing purposes, as claimed. As such, Bernadini fails to anticipate or render obvious embodiments of the present invention which incorporate this limitation.

The rejection states that Bernadini fails to explicitly disclose the LPC gradient adaptive lattice filter; Applicant respectfully agrees.

The rejection suggests the combination of Bernadini with Tanrikulu. However, Tanrikulu fails to remedy the defect in Bernadini, in that Tanrikulu similarly fails to teach or suggest outputting error information which is then used for signal processing purposes, as claimed.

The rejection also suggests the combination of Bernadini with Darbi. However, Darbi fails to remedy the defect in Bernadini, in that Darbi similarly fails to teach or suggest outputting error information which is then used for signal processing purposes, as claimed.

Therefore, Applicant respectfully contends that Bernadini, alone or in combination with Tanrikulu and/or Darbi, fails to anticipate or render obvious the embodiments of the present invention recited in Claims 14 and 16-19. Accordingly, Applicant respectfully contends that these claims overcome the basis for rejection under 35 U.S.C. 103, and are in condition for allowance.

Claim 26 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Bernadini et al., in view of Tanrikulu. Claim 26 has been cancelled without prejudice. Applicant respectfully suggests that this rejection has been obviated, and requests that it be withdrawn.

Conclusion

In light of the remarks above, Applicant respectfully requests allowance of the remaining Claims. The examiner is urged to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,
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